



# Fostering the Circular Economy: Role of MSMEs

**Policy Landscape Paper | India**  
SEED Practitioner Labs Policy Prototyping



## Imprint

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# EXECUTIVE SUMMARY

Over the last 15 years, SEED has supported innovative small and growing, locally-driven eco-inclusive enterprises around the globe to scale their contributions to social and environmental development priorities and foster the development of resilient and inclusive local economies. These enterprises are key actors in driving locally-relevant and innovative solutions for fostering the circular economy (CE), leading not just to the reincorporation of materials into production cycles to reduce resource exploitation, but also resulting in improvement in social and economic outcomes. CE presents opportunities to decouple economic growth from resource use and environmental impact, and opens the way for a resilient recovery. It addresses both the negative impacts of the linear economy, and represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.<sup>1</sup>

## **The circular transition for MSMEs: an opportunity to integrate and mainstream the circular economy in India**

The circular economy policy context as it relates to micro, small and medium enterprises (MSMEs) in India is essential to integrating and mainstreaming the transition to the circular economy in India. Given the almost one third share of GDP coming from MSMEs and the sector contributing to almost half of the exports, it is critical to understand the existing ways in which CE is already being integrated or fostered by MSMEs, and the potential opportunities and required support to tap into these opportunities.

CE opportunities for MSMEs exist along all the stages of the value chain, going beyond the most prevalent focus on the downstream stage (recycling, reuse) to also focus on the upstream stage through pollution avoidance, design changes, resource efficient production, and the substitution of secondary materials for primary resources. CE-based MSMEs or those fostering CE are integrated into the local economy and develop innovative business models, products and services that respond to the needs of local communities and integrate often marginalised populations along their value chain as customers, suppliers and employees. They are therefore well placed to ensure that local economies respond to shocks to the economy and to their climate.

## **Circular economy for building resilience in global supply chains**

In the current COVID situation and post COVID recovery, MSMEs continue to face many challenges, yet are important actors to recovery of local industries and economies.<sup>2</sup> The integrating of CE principles by MSMEs will not only help recovery at the local level but will also contribute to building resilience for future shocks. MSMEs can benefit from the opportunities that arise from assuring critical raw materials supply through improved secondary resource management, which will be crucial in the post-COVID-19 recovery. Since many MSMEs are part of the supply chain of larger enterprises, their recovery and resilience can make significant contributions to sustainable resource management, building resiliency and progress towards the circular economy in global supply chains.

As changing climatic conditions exposes the vulnerabilities of local economies to such shocks, and threatens further loss of jobs, livelihoods and increases in poverty, eco-inclusive MSMEs have an important role to play. CE based MSMEs can build local resilience by saving costs, generating additional sources of revenue through new CE based products and services, designing out waste and environmental pollution, reducing GHG emissions, and generating employment, amongst many other benefits. They can further leverage innovative business models to serve the communities most vulnerable to the effects of environmental pollution and climate change.

## **Supporting MSMEs to tap circular economy opportunities**

MSMEs demonstrate significant potential to develop innovative business models that can integrate CE principles and foster the transition to circular economy. Incorporating CE practices has many resulting benefits for the enterprises, including increasing revenues and addressing many of the supply risks and price shock challenges they may be facing, particularly in the context of accessing raw material inputs. MSMEs, however, continue to face a range of barriers and challenges in incorporating CE principles and scaling solutions that need to be addressed to unlock their full potential. Targeted business development support services that

<sup>1</sup> De, R., & Ellen MacArthur Foundation. (2020). *The circular economy : a transformative Covid-19 recovery strategy How policymakers can pave the way*. Ellen MacArthur Foundation, 72. <https://www.ellenmacarthurfoundation.org/assets/downloads/The-circular-economy-a-transformative-Covid19-recovery-strategy.pdf>

<sup>2</sup> SEED. (2021). *Eco-inclusive Enterprises Driving Green Recovery Pathways. A Green Recovery Snapshot*. SEED. <https://seed.uno/articles/reports/eco-inclusive-enterprises-driving-green-recovery-pathways>

support MSMEs to navigate these challenges are crucial, and should connect to existing and potential policy support. This includes improving market access, building capacity and developing skills of those employed in the sector, providing technology access and digitalisation of processes, and identifying new avenues for finance and infrastructure. To support MSMEs to reach the business development support they need, existing programmes and initiatives that foster circular economy in the country should be aligned, and the policy context strengthened to provide support in this area.

The SEED Practitioner Labs for Policy Prototyping in India are designed to discuss these issues and challenges, bringing together a wide range of stakeholders to co-create solutions to unlock the full potential of MSMEs in the transition to a circular economy.



Arohana EcoSocial Developments

# INTRODUCTION

Micro, small and medium Enterprises (MSMEs) are the backbone of the economy in most developing countries, fostering growth and generating employment opportunities, particularly for the poor and marginalised groups. MSMEs also contribute to the industrialization of rural areas, reducing regional imbalances, and ensuring a more equitable distribution of national income and wealth. In India, estimates suggest that 51% of the MSMEs operate in the rural sectors.<sup>3</sup>

MSMEs in India provide a wide range of services (such as education services, logistics services, media-advertising

and information technology services) and manufactured products (ranging from traditional items such as processed food products and textiles & garments to hi-tech items like precision engineering tools, electrical and electronic components, medical instruments and pharmaceuticals). The MSME sector is very dynamic and has innovation capabilities, with many of the MSMEs serving as auxiliary units of corporate supply chains. MSMEs also participate in global value chains (GVCs): many Indian MSMEs in particular have benefitted from outsourcing, offshoring and joint ventures.

## What is an eco-inclusive enterprise

In accordance with the provision of Micro, Small & Medium Enterprises Development (MSMED) Act, 2006, Micro, Small and Medium Enterprises (MSME) in India are classified as:

- i. a micro enterprise, where the investment in plant and machinery or equipment does not exceed one crore rupees and turnover does not exceed five crore rupees;
- ii. a small enterprise, where the investment in plant and machinery or equipment does not exceed ten crore rupees and turnover does not exceed fifty crore rupees; and
- iii. a medium enterprise, where the investment in plant and machinery or equipment does not exceed fifty crore rupees and turnover does not exceed two hundred and fifty crore rupees.

The new classification has come into effect from 1st July, 2020. The earlier criterion of classification of MSMEs under MSME Development Act, 2006 was based on investment in plant and machinery / equipment, and was different for manufacturing and services units. It was also very low in terms of financial limits. Since then, the economy has undergone significant changes. A revision in MSME criteria of classification was announced in the Aatmnirbhar Bharat package on 13th May, 2020 to reflect these changes in the economy, to establish an objective system of classification, and to provide ease of doing business.

Source: (Ministry of MSME, 2020)

As of 2020, there are approximately 63 million MSMEs in India, of which only about 4% (around 2.5 million) are registered. Registered MSMEs are dominated by micro enterprises at 2.2 million units in 2020, small enterprises at 0.29 million units, and medium enterprises only 10,981 units.<sup>4</sup> Most unregistered MSMEs operate in the informal economy, particularly in the form of industrial clusters in informal settlements known as “homegrown neighbourhoods”. In 2018-19, MSMEs contributed to 30.3% of total GDP, and contributed approximately 48% of total exports.<sup>5</sup> Sector-wise, 31% of the MSMEs are active (measured in lakhs) in manufacturing, 36% in trade,

and 33% in other services.<sup>6</sup> In terms of employment, the sector is the second largest employer after the agriculture sector, and plays a crucial role in stabilising the economy by making it less vulnerable to global shocks.<sup>7</sup>

Currently, many MSMEs work on a linear economy “produce-use-throw” model, which entails excessive consumption of natural resources, including water and energy, and leakages at the end-of-life stage with high waste generation. A circular economy (CE) based model challenges this conventional system, is regenerative by design, and aims to gradually decouple growth from

<sup>3</sup> Ministry of MSME. (2020). *Annual Report 2020-2021*. Government of India, Ministry of Micro, Small and Medium Enterprises, 156. <https://msme.gov.in/sites/default/files/MSME-ANNUAL-REPORT-ENGLISH%202020-21.pdf>

<sup>4</sup> IBEF. (2021). *MSME Industry in India*.

<sup>5</sup> Ministry of MSME. (2019). *MSME Sector Contributes Significantly to Indian Economy*. PIB.

<sup>6</sup> Ministry of MSME, 2020.

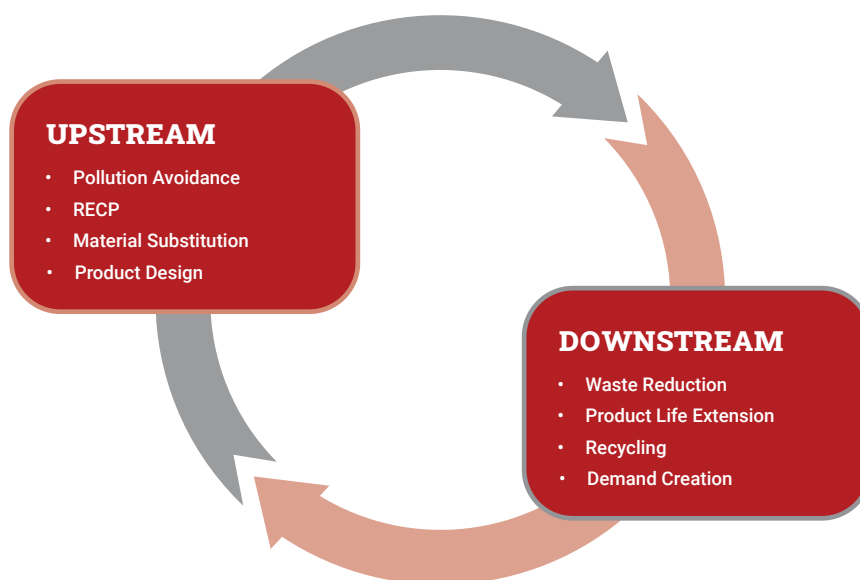
<sup>7</sup> Singh, M. P., Chakraborty, A., & Roy, M. (2017). *Developing an extended theory of planned behavior model to explore circular economy readiness in manufacturing MSMEs, India. Resources, Conservation and Recycling*.

the consumption of finite resources. The three key CE principles are (1) design out waste and pollution, (2) keep products and materials in use, and (3) regenerate natural systems.<sup>8</sup> CE is a sustainable, long-term solution that identifies opportunities throughout the value chain (such as eco-design techniques, packaging solutions, innovative tools and processes) to reduce resource dependency, promote re-use and recycling, and contribute to waste minimization.

Mainstreaming CE can offer MSMEs many possibilities to shift to sustainable manufacturing, increase revenues, and address many of the supply risks and price shock related challenges they may be facing. A circular economic approach, for example, of adopting resource efficient and cleaner production strategies could help enterprises generate many benefits such as cutting costs by reducing resource, energy, and material expenditure. New products and services based on CE principles can also be developed. This would lead to improved

competitive advantages in national and international markets both from meeting rising demand for green products and services, and from reducing input costs. Other benefits at a societal level can include reduction in pollution, improved waste management, reduction in GHG emissions, employment generation, and forward and backward linkages of the informal sector with the formal sector.

There is a need to develop, promote and scale CE-based business models for MSMEs. These business models should cover the entire value chain and look both at the promotion of waste reduction and recycling at the downstream stage of the value chain, as well as upstream aspects such as pollution avoidance, design changes, resource efficient production, and the substitution of secondary materials for primary resources. Within each stage of the value chain, there is scope to look further- for example, to go beyond waste reduction and recycling to refurbish, remanufacture, repurpose.



The transition to a circular economic system entails deep-rooted systemic challenges relating to government support, tax structures, profit models, education, technical skills and finance, among others. Without these systemic changes, MSMEs face challenges in transitioning to CE activities where profit models and customer demand remains unproven. Currently, there is no strategic roadmap to empower MSMEs to deal with the risks related to the transition. This presents an opportunity to address these challenges, through supporting the entry of new players to the circular economy (such as digital companies and upcyclers in the growing waste recycling industry), but also in developing innovative products, fostering of research/academia-industry connect and many others.

This policy landscape paper presents a picture of how

MSMEs have integrated circular economy principles into their own processes and operations, maps challenges they face in starting and scaling their solutions, and identifies recommendations for further supporting them to drive the transition to a circular economy. The paper aims to:

- Examine the typology of MSMEs, particularly eco-inclusive enterprises in India
- Outline key challenges and barriers faced by MSMEs when growing and scaling their enterprises to integrate circular economy principles and develop circular economy models

<sup>8</sup> Ellen MacArthur Foundation. (2017). *What is Circular Economy*.

- Identify areas where further policy support is needed to support MSMEs in the transition to a circular economy in India

This paper serves as an input to the SEED Practitioner Labs for Policy Prototyping in India, in which stakeholders across sectors co-create policy instruments to build a more enabling ecosystem for circular MSMEs.

Identify areas where further policy support is needed to support MSMEs in the transition to a green and inclusive transition in India.

This paper serves as an input to the SEED Policy Prototyping Programme, in which stakeholders across sectors co-create policy instruments to build a more enabling ecosystem for eco-inclusive enterprises.

### SEED Practitioner Labs for Policy Prototyping

The SEED Practitioner Labs for Policy Prototyping offer an opportunity for key ecosystem stakeholders to contribute to policy agenda setting, improve policy implementation, and make recommendations to improve targeting of policies. By collaborating across stakeholder groups (policy practitioners, MSME support organisations and MSMEs) to develop policy solutions, Lab participants play an important role in shaping the policy landscape of Ghana and creating a supportive environment for MSMEs.



Waste Venture India



# 1. TRANSITIONING TO THE CIRCULAR ECONOMY AT A GLOBAL AND NATIONAL LEVEL

Expanding population growth, rapid urbanisation, and economic development are accelerating global waste production at an alarming rate. This has led to an increasing need to decouple economic growth from resource consumption. Government, the private sector, consumers, research institutions, and civil society can encourage and support the transition to more sustainable methods of production and consumption. The circular economy model and its approaches to design, manufacturing and reuse provides one alternative that can address these issues by keeping resources in play for as long as possible, and recovering and reusing spent materials and products. Globally, the argument for a circular economy has moved beyond environmental concerns or good corporate citizenship and is seen as an emerging opportunity and a profitable way of doing business.

In the political mainstream, circular economy has emerged as an important discussion points in the G20 Agenda, whereby G20 countries are integrating circular economy as part of the implementation strategies for achieving the Sustainable Development Goals (SDGs). The SDG targets are ambitious and require transformation that is associated with adapting new business models, bringing in new innovation/technology, and doing business differently. The transition to an environmentally-friendly economic system that is based on circular economy principles requires collective action by multiple stakeholders across borders at a global level.

Despite the need for global action, commitments to transitioning to a circular economy need to be mainstreamed in national and local policy contexts. In recent years, the Indian Government has launched many ambitious programmes to support the achievement of the SDGs and Paris Accord, which have certain elements of circularity enshrined.<sup>9</sup> Plans for expanding installation of renewable energy plants, removal of plastic waste, and conservation of natural resources are among the largest and most ambitious in the world. Examples of such programmes also include the 'Make in India' and 'Skill India', both flagship programmes of the Government of India, and the Scheme of Fund for Regeneration of Traditional Industries (SFURTI), an initiative by Ministry of MSME that promotes the cluster-based model for reviving traditional industries and enhancing the employment opportunities and industrial base of the economy.

This transition is also reflected in policies and strategies. The 'Strategy on Resource Efficiency' prepared by the

National Institution for Transforming India (NITI) Aayog in the Government of India, and the establishment of the inter-departmental group to ensure implementation and mainstreaming of the resource efficiency agenda in allied Ministries is a crucial step in this regard. Another key initiative for fostering resource efficiency and the circular economy is the establishment of the Resource Efficiency Cell by the Ministry for Environment, Forests and Climate Change, with a view to setting up an enabling resource efficiency policy framework. The Draft National Resource Efficiency Policy of India (which came out in 2020, although is yet to be finalised) has also emphasised the need and opportunities for resource efficiency and circular economy.

Steps have also been taken to address circular economy considerations in partnership with other governments and stakeholders. A Joint Declaration established the India-EU Resource Efficiency and Circular Economy Partnership, bringing together representatives of relevant stakeholders from both sides, including governments, businesses (including start-ups), academia and research institutes.

Policies that focus on implementing India's priorities and commitments in the circular economy, however, continue to focus on individual areas and themes, and tend to be fragmented, lacking a systemic approach.<sup>10</sup> This poses a challenge for MSMEs that want to adopt circular economy models. Businesses often find that they lack expertise in product development and technology adoption, and have inadequate financial support needed to scale efforts to recover secondary raw material and substitute scarce resources or hazardous materials with cleaner, restorative or more regenerative ones. This can hinder a critical mass of the MSMEs to tap into market opportunities created by CE.



<sup>9</sup> Examples include reducing the emission intensity of GDP and generating electric power from non-fossil fuel-based energy resources.

<sup>10</sup> TERI, Yes Bank. 2018. Circular Economy: A business imperative for India. TERI. <https://wds.teriin.org/2018/files/teri-yesbank-circular-economy-report.pdf>






## 2. CIRCULAR ECONOMY BASED MSME MODELS: TYPOLOGY AND KEY SECTORS

To build a comprehensive green supply chain in any sector, the associated MSMEs, both formal and informal, must also be green/sustainable. The concept of green supply chain management (GSCM) integrates environmental concerns across all processes of the traditional, linear supply chain. This includes upstream processes such as product design, material sourcing and selection, to midstream stage of manufacturing and production, operations, and downstream processes of end-of-life management. CE can promote green supply chain management by raising awareness of

resource conservation and environmental protection.<sup>11</sup> This landscape paper outlines a typology along two opportunities that the circular economy provides MSMEs:

-  **Integration of circular economy in existing operations and business;**
-  **Accessing new business models that draw on the opportunities within the circular economy and link to larger global supply chain markets**

### UPSTREAM

-  **Pollution Avoidance**
-  **RECP**
-  **Material Substitution**
-  *Upcycle waste from other sectors*
-  **Product Design**

### DOWNSTREAM

-  **Waste Reduction**
-  **Product Life Extension**
-  *Offer products as service*
-  *Refurbish / remanufacture products*
-  **Recycling**
-  *Upgrade waste management services and material recycling facilities*
-  **Demand Creation**
-  *Generate awareness*
-  **Circular Metrics**



<sup>11</sup> Ying, J., & Li-jun, Z. (2012). Study on Green Supply Chain Management Based on Circular Economy. *Physics Procedia*, 25, 1682–1688. <https://doi.org/10.1016/j.phpro.2012.03.295>

## 2.1 Integration of circular economy in existing operations and business

### Product design

This is an upstream measure where the entire value chain of the product is considered at the design stage. The design of products is based on the 3R principal of reduce, reuse, and recycle. This can include ease of use, increased energy efficiency, long life of products, and design for recycle through easy disassembly, collection, and labelling.

- e.g. The Plastic Waste Management Rules 2016 of India mandate labelling of resin identification code on plastic products according to the 1-7 category, emphasising increased thickness of plastic carry bags and recycled, and compostable classifications. This allows for easy identification, segregation, and collection of plastics.<sup>12</sup>

### Reuse of materials within a sector

MSMEs can reuse waste generated from their operations within their production processes to substitute virgin raw materials.

- e.g. MSMEs can make use of C&D waste in new buildings and construction activities. Though currently less than 1% of construction and demolition waste (C&D waste) is recycled and reused as raw material instead of virgin material for construction of new buildings, there is significant potential to increase this usage.<sup>13</sup> The Bureau of Indian Standards has allowed the use of concrete made from recycled material and processed C&D waste. The Construction and Demolition Waste Rules and Regulations, 2016, have mandated reuse of recycled material, and the Swachh Bharat Mission has recognised the need for C&D waste management.

### Auditing and implementation of Resource efficient cleaner production (RECP)

RECP is a continuous process and an integrated preventative strategy taken up by the MSMEs to increase their product and production efficiency while reducing environmental and human health risks through focus on environmental management and human development. This can be through evaluating the production processes, determining wastage, under or over utilization of resources, and addressing issues through intervention.<sup>14</sup>

In India, the Sustainable and Environment-friendly Industrial Production (SEIP) project was implemented during 2015-2018 jointly by GIZ and the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India and supported technically by other national and international institutes including TERI and adelphi. The project focused on implementation of efficient, environment friendly, and climate-friendly industrial development including RECP and associated technologies. For example, a micro-scale chemicals company M/s Sterling Pigments and Colors located in Vapi, Gujarat improved resource efficiency by adjusting its chemical dosage, which reduced resource consumption, improved water quality, reduced sludge generation and color discharge from ETPs.

Source: (GIZ, 2016) <http://seip.urban-industrial.in/content/e62771/e69802/content/e62771/e64483/e64794/e67873/>

### Product life extension

In addition to upstream design measures, MSMEs can also take CE measures in their mid- and downstream operations. They can do this by offering repair and maintenance services to customers to increase product life and maximize product utilization rate.

- e.g. MSMEs making furniture, also offer to repair the products and polish them to increase the lifespan.

### Implementation of circular metrics

MSMEs can adopt metrics that measure business performance not just through sales and revenue but through social and environmental impact. These can further justify and create awareness of achievements externally with customers and regulators. With the help of programmes such as Business Call to Action (BCtA) developed by the UN in 2008, and SEED enterprise support programmes (Accelerator, Catalyser, Replicator and Starter), MSMEs can develop inclusive business models, measure their contributions to the SDGs, and create a context-specific impact framework.

<sup>12</sup> MoEFCC. (2016). [Published In the Gazette of India, Part-II, Section-3, Sub-section (ii)] Ministry of Environment, Forest and Climate Change NOTIFICATION New Delhi, the 29 (Vol. 317, Issue ii).

<sup>13</sup> CSE. (2020). India manages to recover and recycle only about 1 per cent of its construction and demolition (C&D) waste, says new CSE analysis.

<sup>14</sup> Sustainable Urban and Industrial Development. (2021). Pollution reduction through improvements in ETP operations at M/s Sterling Pigments & Colours, Vapi.

The company Waste Ventures India (WVI) trains informal waste pickers to sort and process garbage and sells recovered resources to manufacturers and farmers. It has tested innovative business strategies including its revenue and impact model, and incorporated lessons into their new projects.

Source: (SEED, 2016) <https://www.seed.uno/enterprise-profiles/waste-ventures-india>

## Demand creation

MSMEs can create a demand for their sustainable products and promote them through eco-labelling and certifications such as the BEE star rating of energy efficient appliances which saves electricity and cost.

## 2.2 Accessing new business models that draw on the opportunities within the circular economy and link to larger global supply chain markets

### Use of recycled/ sustainable raw material (from different sectors)

MSMEs can reduce negative environmental impacts from manufacturing by substituting virgin raw materials with post-consumer materials through recycling and upcycling waste from other sectors. This can be in the form of using recycled plastic procured from segregated plastic waste in non-food applications, or in building roads using recycled PET from the textiles (fiber) sector.

- EcoHike<sup>15</sup> is a sustainable apparel company, which uses recycled PET plastic bottles in its production processes, saving 70% of CO2 emissions and saving water and landfill space.
- The automobile sector includes many formal and informal MSMEs that provide autoparts and services like repair and maintenance directly to customers or to larger corporations. The large HeroMotor Corp has developed programmes such as Green Vendor Development and Green Supply Chain Management to ensure MSMEs in its value chain meet specified environmental performance criterion. This has resulted in various benefits and co-benefits including leaner production, increased inventory control, reduced costs, and improved market competitiveness, public image, and market reach.
- The Protoprint Project based in Pune, Maharashtra, has integrated circular practices of procuring segregated plastic waste from waste pickers in its supply chain for producing plastic filament used for 3D printing.<sup>16</sup>

## Offer products as service

Instead of providing new goods and virgin materials, MSMEs can offer products for rent and provide digital platforms for refurbishing and reselling products or sharing products with consumers or within companies. Such sustainable service models keep products in high value cycles.

- Rentickle<sup>17</sup>, an online platform for lifestyle products, home appliances, and furniture rental, where brand-new or refurbished products are available on different tenure options.

## Waste management

End-of-life waste management plays a crucial role in fostering the circular economy. This is mostly handled by the informal sector. Currently, end-of-life waste management is undertaken by the informal sector, which collects only recyclables which are mostly downcycled into lesser value products. The current system leads to waste leakages and informal recycling methods cause pollution. The waste management value chain needs to be upgraded and formalised to develop a robust collection and segregation system, and infrastructure like Material Recycling Facilities (MRFs). These improvements would upgrade junk shops, which are mostly informal, and develop reutilization facilities, feeding these facilities with a continuous supply of segregated waste. MSMEs dealing with waste management have largely focused on processing industrial waste – recycling, producing fuel from municipal waste, or large-scale composting – as well as formalising informal networks of waste collection.

- The organized formal MRF set up by Chintan in partnership with the New Delhi Indian Railway Station and Sefai Sena is on a former dumpsite which is transformed into a clean working space where integrated and trained waste pickers systematically sort waste into organic and dry waste fractions, which is composted into manure and the dry component is sorted into various recyclable fractions and passed onto corporate producers like Tetrapack for proper recycling. This garbage would have otherwise gone to a landfill and is now recycled in current manner instead of being down cycled into low value products.
- Saahas Zero Waste provides end-to-end waste management services based on the principles of circular economy by handling waste sustainably & responsibly for MNCs, tech parks, residential communities and other bulk generating organizations and institutions.

<sup>15</sup> Ecohike. (2018). *By Recycling You Can Change Tomorrow, Today.*

<sup>16</sup> The Protoprint Project. (2021). *Improving wastepicker livelihoods and urban sustainability through the upcycling of plastic waste. The implementation phase of the Protoprint project is supported by SWITCH Asia, in partnership with adelphi.*

<sup>17</sup> Rentickle. (2017). *No T.*

## Refurbish/remanufacture

Refurbishing is a process of returning a product to good working condition by replacing or repairing major components that are faulty or close to failure. Disassembly, recovery, and remanufacturing takes place at the component level. Functioning and reusable parts are taken out of the used product and rebuilt into a new one. Auto parts, electronic items such as phones and laptops, and ready-made garments and furniture are some examples of products that are readily refurbished and resold, though mostly by the informal sector at a micro level.

## Awareness generation

Awareness generation on fostering sustainability, efficiency, and circular economy plays a significant role in creating demand for circular business. Through lifestyle education, consumers better understand their environmental impact - including their carbon footprint -and how to make eco-conscious choices. This will create a demand for sustainable “green” products in various sectors, and foster the circular economy as a whole. For example, education on veganism and animal cruelty has led to a switch to plant-based lifestyles.

- MSMEs like *Ethik* in Bangalore sells PETA approved, lab-made vegan leather footwear to conscious consumers. *Ethik* claims to not only save animal lives, but also to reduce water wastage and reduce the carbon footprint of the fashion industry.



Ecohike

## 2.3 Common circular economy sectors for MSMEs

Sustainable MSME enterprises operate in various sectors, including tourism, building and construction, and waste management. Some examples of MSMEs contributing to circular economy practices and resource efficiency in different sectors in India are given in the box below.



### Sustainable Eco-tourism

The tourism sector has become more sustainable over recent years, although green-washing is still an issue. MSMEs including small retreats are moving towards sustainability and are recognized through the ToftTigers pug Eco rating.<sup>18</sup> Example MSMEs in this sector include:



**Jim's Jungle Retreat** (<https://jimsjungleretreat.com/>) in Uttarakhand implements sustainability practices that reduce carbon emissions through local procurement of materials, using organic plant products like Reetha as a substitute for chemical soaps, avoiding single-use toiletries, reducing plastic use, and using home-grown organic produce. Jim's Jungle Retreat also provides employment to local communities.

**Dhole's Den** (<https://dholesden.com>) in Karnataka adopts sustainability practices including energy conservation and renewable energy use provided by a micro wind and solar power hybrid generator. Power from the grid is used mostly for pumping water. The building is also sustainable, with maximized natural light from large windows and doors, natural ambient temperature maintained by high ceilings, proper insulation in the rooms, minimal electricity consumption through reducing appliances available to guests, and reduced energy consumption through LED lighting. All appliances used have a BEE star rating, biogas is produced from kitchen waste, and local procurement reduces carbon emissions (Tofttigers, 2021).



### Sustainable Building & Construction (B&C) Sector

Sustainable building materials have thus far mostly been offered by large companies or their subsidiaries. With active government involvement and a push towards green building by the India Green Building Council (IGBC) as part of CII and through Eco-star and GRIHA rating systems, MSMEs are now also involved in providing green, eco-friendly B&C materials.

**Earth Tatva** (<https://seed.uno/enterprise-profiles/earth-tatva>), based in Gandhinagar, is a 2020 SEED Starter enterprise offering recycled products (ceramic tableware). Earth Tatva works towards reducing mining for natural resources by 60% and lowering energy consumption through recycling fired ceramic waste. Recycled ceramic tableware is stronger than conventional material and the aesthetic designs developed are being sold to customers seeking a green and sustainable lifestyle including luxury hotels and organic food cafes. Following a pending patent, Earth Tatva aims to license their innovation to other manufacturers, and reduce mining on a larger scale.



**RecycleX** (<https://www.recyclex.in/>) is a Gujarat-based startup formed in 2020. It is a 2021 runner-up of the SEED Awards. RecycleX collects and recycles all types and grades of plastic waste and industrial and building and construction waste, and manufactures high-quality, eco-friendly and cheap products and building materials, including paver blocks, kerbstone, and solid blocks according to IS standards. RecycleX works as a PRO (Producer Responsibility Organization) with end-to-end EPR solutions to industries and brands, including providing certification of the waste recycled.

**The EcoBoard Industries** (<https://www.ecoboard.in/>) is based out of Pune, and has an eco-friendly business model that uses bagasse fibre from sugarcane waste to manufacture industrial engineered, processed wood, a sustainable substitute for wood and plywood. EcoBoard is India's first 100% wood alternate product made from agri-residue. The EcoBoard biosystems technology treats effluents emanating from distilleries, and uses the biogas produced as non-conventional energy in distilleries for firing boilers.

<sup>18</sup> Tofttigers. (2021). ENERGY AND CARBON FOOTPRINT Dhole 's Den , Bandipur Leading the Way in Energy Conservation and Renewable Energy. March 2021.



**Daily Dump** (<https://www.seed.uno/enterprise-profiles/daily-dump>), based in Bangaluru, provides waste management products and services for green living, and is a 2018 SEED Low Carbon Award Winner. Daily Dump (PBK Waste Solutions Pvt. Ltd.) designs and sells home and community composters, and related products and services. It is India's first company to design a home composter, adapted for tight urban spaces, with a unique terracotta design. Daily Dump actively raises awareness on the need for reducing waste through home composting in schools and communities.

**TERI's (The Energy and Resources Institute) Enhanced Acidification and Methanation (TEAM)** technology tackles organic waste while also producing fuel for thermal applications, especially cooking.<sup>19</sup> Biomethanation is determined as the most desirable alternative for the treatment of solid waste, it yields biogas that can replace conventional fuels and provides digested sludge, which can be used as organic manure. The TEAM technology is a high-rate digester for fibrous and semi-solid organic waste. The technology has been put to use in the waste treatment plant in TERI's sustainable habitat campus in Gurgaon, where it has been generating good-quality biogas and manure from organic waste since 2000. The TEAM technology so far has been taken up by NTPC in two of its stations and in West Bengal and Assam. Recently, The Blue Planet Environmental Solutions Private Limited (BPES), a Singapore based waste management company has signed a joint development agreement with TERI to further develop and use the innovative waste management technology.

The **GPS Renewables** in Bangalore in Karnataka (<http://www.greenpowersystems.co.in/gps-renewables/>) is a waste-to-wealth cleantech company offering solutions for organic waste management. It makes a bio-waste to energy conversion equipment 'Biourja', a modular bio-gas plant with a 500kg to 1000kg capacity. The fuel generated can be used as sustainable cooking fuel substitute. GPS Renewables also has a proprietary technology component of an AI solution called the BiogasBot that is a remote predictive bioprocess management system. The Biourja products are modular and enabled with remote monitoring systems. This Indian company also installs bio-gas plants and offers related BiogasBot technology services to Bangladesh and Sri Lanka.

19 TERI. (2018). TERI's enhanced acidification and methanation technology.



### 3. BARRIERS AND CHALLENGES FACED BY MSMEs

Large, multinational corporations have the resources to make their supply chain green and sustainable, and to invest in research and development to move towards circular, resource efficient practices. MSMEs, particularly those in the informal sector, often lack the resources and skills to move in this direction. With a push from the government sector, development organizations, CSR initiatives of large Indian and multi-national corporations (MNCs), and green procurement, MSMEs are starting to integrate CE principles in their operations and processes and also have circular business models.

Despite their socio-economic contributions, MSMEs face a number of challenges when looking to start and scale their circular economy solutions. These range from accessing appropriate finance and technology, to developing growth-oriented human resource, marketing and operations strategies and practices. These barriers can stem from the MSME enabling environment, such as culture and policy-making, as well as from market barriers and the value chain in which the MSME operates, such as supplier behaviour, and a lack of technical skills and finance.

The SME Chamber of India highlights challenges pertaining to the absence of adequate and timely banking finance, limited capital and knowledge, non-availability of suitable technology, low production capacity, ineffective marketing strategy, identification of new markets, constraints on modernisation & expansion, non-availability of highly skilled labour at affordable cost, follow-up with various government agencies to resolve problems etc.<sup>20</sup> The Prime Minister (PM) Task Force Report on MSME further classifies the issues faced by the MSMEs into 6 major thematic areas<sup>21</sup> as (i) credit, (ii) marketing, (iii) labour, (iv) rehabilitation and exit policy, (v) infrastructure, technology and skill development and (vi) taxation.<sup>22</sup>

The impact of these challenges on the promotion of circular economy practices among MSMEs is two-fold. First, MSMEs struggle to develop at the start up stage. As sustaining operations is a challenge at this stage, the integration and mainstreaming of circular economy practices may take a backseat. Secondly, MSMEs that do have circular economy models struggle to scale and commercialise their solutions. This hinders MSMEs from reaching economies of scale and achieving their full impact potential.

**Table 1: Barriers and Challenges to upscaling and replicating circular business models by MSMEs**

#### Access to Finance: necessary to expand business operations

##### Common challenges

- Significant transaction costs, small ticket sizes, and high risks are primary deterrents for banking institutions when it comes to MSME financing, hindering access to debt finance.
- Large financial institutions need collateral such as inventory or infrastructure, which many lack. MSMEs are often unable to access risk capital due to small-scale activities and low asset holdings. Under-writing the customer often entails a higher operating cost.
- Banks and NBFCs low credit limits and high interest rates make it difficult for MSMEs to get loans, particularly in the informal sector due to information asymmetries, particularly with regard to previous financial performance.
- The GOI schemes like Credit Guarantee Scheme and the Performance & Credit Rating Scheme ensure better availability of credit, however MSMEs (especially informal) often do not have a bank account.
- The complex and time-consuming loan disbursement procedure of banks and NBFCs makes it difficult for MSMEs, since they require swift processes throughout their growth stage to fulfil rapid demands.
- Limited access to equity capital, especially for development of knowledge-based industries, even though overall capital inflows have significantly increased.

<sup>20</sup> Yadav, S., & Tripathi, V. (2018). CHALLENGES AND OBSTACLES FACED BY MICRO, SMALL AND MEDIUM SIZED ENTERPRISES (MSMEs) IN INDIA Seemant Yadav & Prof. Vikas Tripathi. 7(4).

<sup>21</sup> Important to note here that some of these issues may not be relevant if the MSMEs are part of a supply chain of the larger enterprises.

<sup>22</sup> Gol. (2010). Prime Minister's Task Force on MSME. January 2010, 187.



## Access to technology: necessary to change paradigm to CE

### Common Challenges

- Lack of awareness and knowledge on adoption of the existing and new technologies to become efficient and instead reliance on outdated, inefficient technologies.
- Enabling software for product design, customer management, and inventory management are not accessible to MSMEs due to high cost and lack of technical expertise.

### Specific to CE integration

- Low technology levels disadvantage the MSME sector in the developing global market due to import competition.
- Adoption of technologies on automation will allow MSMEs to produce accurate data on its inputs, processes, outputs and financials.

### Specific to CE business models

- Lack of linkages and symbiosis between industry, R&D and academic institutions.
- Lack of integration between large firms and MSMEs that can catalyse technological transfer and adoption deters scaling up of businesses.

## Access to infrastructure: necessary for development and industrial symbiosis

### Common Challenges

- Maintenance of Industrial Estates/ Parks (roads, drainage, sewage, power distribution and captive power generation, water supply, workers dormitories, CETPs, common facilities, security, etc.) needed for successful functioning of industries in an industrial estate.
- Inadequate infrastructure facilities such as railways, waterways, roadways and airways, proper channels of telecommunication, adequate supply of power and other supporting facilities like Tool Rooms, Testing Labs, Design Centres, etc. hinders production, consumption and distribution of the products.<sup>23</sup>
- Lack of a cost effective, resource efficient, sustainable logistics/supply chain infrastructure.
- MSMEs that are not digital are unable to participate in most government programs like Digital India or Start Up-India, which are mostly dependent on digital infrastructure and require recipients to have a digital identity and presence.

### Specific to CE business models

- Lack of access to R&D centres, incubators for product and prototype development, testing laboratories, technology transfer centres, common environment mitigation facilities, common effluent treatment plants (CETPs), etc.
- Need custom built-in infrastructure i.e. ready to move-in with plug and play facilities thereby eliminating the need to invest capital in acquiring and creating custom facilities.

## Access to market: necessary to link to GSCM

### Specific to CE Integration

- Complex eligibility criteria (annual turnover, past experience) of government tenders prohibits MSMEs from accessing public procurement markets of government departments and agencies.
- Lack of access to global markets due to lack of funding to broaden operations, or a lack of awareness of potential opportunities.
- Small-scale procurement of raw materials increases costs of the materials when compared to industrial-scale purchase at bulk. Procurement is often carried out within local territory due to their financial constraints.
- Non-availability of selling outlets for MSME products is a serious constraint. In addition, MSMEs also face the problem of inadequate infrastructure for marketing of their products to interior/ remote parts of the country. MSMEs also face issues to store, display, and design the packaging of products

<sup>23</sup> Grant Thornton & FICCI. (2011). *Vision 2020: Implications for MSMEs 2011*. 76. v

## Skill development: necessary for infusion of new skill and entrepreneurship orientation

### Common Challenges

- MSMEs lack capacity to integrate competitively at the global level and export/ supply to corporations both, domestically and internationally.
- There is a disconnect between the demand and supply of skilled manpower which can be overcome through vocational and technical training, skill upgradation, building new skills, mapping existing skills, and certification.
- Lack of skilled workforce and low retention of employees despite a large pool of human resources. MSMEs continue to face a shortage of manpower with the necessary skill set in specific areas such as manufacturing, service, and marketing. The HR issue is further exacerbated by a low retention rate.

## Access to supportive regulatory framework: necessary for compliance and rehabilitation

### Common Challenges

- Complex regulatory policies in topics such as labour, environment, urban and various taxation laws (both state and central), create issues of compliance and increase costs for compliant enterprises.
- Absence of suitable and effective mechanism which ensures the quick revival of viable sick enterprises, and allows unviable entities to quickly close down restricts the promotion of MSMEs.



Earth Tatva

## 4. STAKEHOLDERS IN THE CIRCULAR ECONOMY MSME SECTOR

Various stakeholders associated with the MSME sector can potentially contribute to addressing these challenges, and to spur the adoption of sustainable practices within existing MSMEs or through creation of business models for MSMEs that contribute to resource efficiency and circular economy.

*Table 2: Map of stakeholder for MSME and associated circular economy uptake*

Stakeholder Category	Objective and Examples
Government - Ministries and Regulatory Authorities	<p><b>Objective:</b> Ministries to put in place policies, and Regulatory Authorities to ensure that they are implemented in the most effective manner.</p> <p><b>Examples:</b> Department of Biotechnology, Department of Science and Technology, Bureau of Energy Efficiency, Ministry of MSME, Ministry of Commerce and Industry, Ministry of Non-Renewable Energy, Ministry of Environment, Forests and Climate Change, National Small Industries Corporation (NSIC), Ministry of Housing and Urban Affairs, Ministry of Rural Development, State Urban Development Departments, Central and State Pollution Control Board, Urban Local Bodies</p>
Civil Society/ NGOs	<p><b>Objective:</b> Communicate the voice of the MSME entrepreneurs to the government</p> <p><b>Examples:</b> FMC (Foundation for MSME Clusters), CRB (Centre for Responsible business), Earth5r</p>
Training and Educational Institutes	<p><b>Objective:</b> Support entrepreneurs to develop new skills to survive in the market; Educational Institutes/Universities to nurture the spirit of entrepreneurship by introducing circular economy principles and applications in the curriculum</p> <p><b>Examples:</b> Industrial Training Institutes (ITI) and Industrial Training Centers (ITC) Non-governmental institutes like TERI and Development Alternatives, Institute of Small Enterprises and Development, MSME Development Institute, Entrepreneurship Development Institute of India, National Institute of MSME (NIMSME)</p>
Think Tanks, International Development Organizations, Policy and Research Institutions	<p><b>Objective:</b> Assess and analyse the relevance of existing policies, identify policy gaps and develop potential new policy instruments</p> <p><b>Examples:</b> TERI, adelphi, NITI Ayog, UNDP, GIZ, WRI, Development Alternatives, WWF India</p>

Stakeholder Category	Objective and Examples
Industry bodies and Large corporations	<p><b>Objective:</b> Industry bodies to push forward industry needs and provide a platform to connect and collaborate to share knowledge. Large corporations to restructure value chain to promote sustainable production and foster circularity in the MSMEs who are part of their supply chain.</p> <p><b>Examples:</b> Associated Chambers Of Commerce And Industry Of India (ASSOCHAM), Federation Of Indian Chambers Of Commerce And Industry (FICCI), Federation of Micro and Small &amp; Medium Enterprises (FISME), World Association for Small and Medium Enterprises (WASME), Technology Bureau for Small Enterprises (TBSE) as industry bodies; Khadi and Village Industries Commission (KVIC); Laghu Udyog Bharati, Network of SME associations &amp; Members, Additional local industry associations (regional and sector wise); ITC and Unilever as an example of large corporations with many MSMEs as part of their global supply chains.</p>
Global Supply Chain Management (GSCM) Development Providers	<p><b>Objective:</b> Provide a platform for networking and consensus building within and across sectors.</p> <p><b>Examples:</b> Hero Corp GSCM, Hero-Green Vendor Development, ITC-eChoupal</p>
Financial Institutions- Development Finance Institutions (DFIs), Developmental Partners, Public and Private Banks, Non-Banking Financial Corporations (NBFCs) and Micro-Finance Institutions (MFIs)	<p><b>Objective:</b> Provide and direct finance to MSMEs for supporting their efforts to transition towards CE.</p> <p><b>Examples:</b> HDFC, SIDBI, DBS, Yes Bank, Menterra, National Bank for Agriculture and Rural Development (NABARD), Muthoot FinCorp, Bajaj Finance Corporation, ADB, World Bank, IFC.</p>
Support organizations: Accelerators and Incubators	<p><b>Objective:</b> Help in setting-up the MSME till it matures; aggregate multiple MSMEs to share their challenges and identify solutions jointly.</p> <p><b>Examples:</b> Accelerators such as FMC, IMEDF, KVIC, MoMSME (SFURTI, MSE-CDP); Incubators such as udyame, Honey Bee Network, Technical support groups of SEED, DST, Atal Innovation Centres (AICs) as part of Atal Innovation Mission, Villgro, Incubators in educational institutes like IITs.</p>
Support organizations: Business Development Service (BDS) providers	<p><b>Objective:</b> Provide capacity building/training to MSMEs</p> <p><b>Examples:</b> SEED India Hub (hosted by TERI), Ekonnnect Knowledge Foundation, Climate Collective, DA, Maker's Asylum.</p>
Informal Sector	<p><b>Objective:</b> Contribute to manufacturing value chains, and also to various local market segments; upgrade business models</p> <p><b>Examples:</b> Unorganized manufacturing units (upstream and midstream) Waste pickers, kabadiwalas, recycling units (downstream)</p>

## 5. POLICY FRAMEWORK FOR PROMOTING CIRCULAR ECONOMY MSMEs

The government of India recognizes the importance of MSMEs, and fosters their growth through Ministry of MSME and initiatives like Startup India, as part of Department of Promotion for Industry and Internal Trade, with the goal of encouraging entrepreneurship, employment and livelihood opportunities in all states, and enhancing competitiveness of MSMEs. Multiple policies and schemes focus on MSMEs, helping to ensure lean manufacturing by bringing down costs, facilitating funding mechanisms, and increasing demand for MSME products and services through public procurement. Only a handful of policies, however, target resource efficiency and circular economy in MSMEs, and of those that do, most focus on the downstream end-of-life waste management activities.

One of the few overarching programmes that supports the sustainable growth of circular economy MSMEs is the **Micro and Small Enterprises Cluster Development Programme (MSE-CDP)**. The MSE-CDP has led to development of several clusters that have common supportive action, infrastructure facilities, and common facility centres promoting green and sustainable manufacturing and management of waste, thereby promoting circular economy principles.

At the upstream stage of the value chain, there are few schemes to ensure resource efficiency, waste minimizations, and costs reduction, most of which fall under the overarching **National Manufacturing Competitiveness Programme (NMCP)**. These include the Zero Effect Zero Defect Certification Scheme, Design Clinics Scheme, and Lean Manufacturing Competitiveness Scheme. These schemes and Quality Management Standards / Quality Technology Tools push for efficiency at within production processes, however circularity and waste minimization are only considered within the framework of cost reduction, and not in terms of potential environmental benefits.

The National Manufacturing Competitiveness Program was launched in 2014, with an aim to enhance the competitiveness of MSMEs. Key schemes under the NMCP are presented in Table 3.

**Financial Support to MSMEs in ZED Certification Scheme (2017)**. This is based on the government objective of promoting Zero Defect Zero Effect (ZED) across all manufacturing and service sector industries, with a specific emphasis on the MSMEs. This includes production mechanisms wherein products have no defects as well as production processes that have zero adverse environmental and ecological effects. The ZED rating scheme is a pan-India drive for creating awareness in MSME clusters about the benefits of the zero-defect manufacturing and how enterprises can quickly adopt these processes through financial assistance. Increased

productivity and reduced wastages would lead to a substantial increase of MSMEs in the global production chains.

**Waste Management Rules.** In the downstream value chain, waste management rules such as the Plastic and E-waste Waste Management rules hold manufacturers responsible for proper treatment and disposal of waste, and have proposed an EPR mechanism for the same. The construction and demolition waste management rules mandate the setting up of a waste processing facility, making businesses liable for proper collection and disposal. These rules encourage start-ups and small and medium enterprises (SMEs) to tap into opportunities from effective waste management.

**National Non-Ferrous Metal Scrap Recycling Framework, 2020.** This framework aims to promote circularity and reduce pollution associated with non-ferrous scrap management. The framework suggests provision of assistance and concessions to recyclers, and setting up a new recycling unit for MSMEs in consultation with the Ministry of Finance and other stakeholders. It also suggests promotion of new start-up activities in the recycling eco-system, in coordination with MSMEs.

**Vehicular Scrap Policy 2021.** This policy will encourage setting up new businesses in the vehicle scrap recycling space, and will lead to the creation of new job opportunities. This will be an important segment for MSMEs, as it offers opportunities for innovative business models that can foster circularity not just in the auto sector, but also promote industrial symbiosis (where waste from one industry is raw material for another), partake in process efficiency programs and encourage use of recycled materials in manufacturing.

**Production Linked Incentive (PLI)** scheme introduced in 2020 for 12 key sectors of the economy can support the growth of the MSMEs, particularly those serving as ancillary units to larger enterprises, and help them grow and compete with global firms. The PLI scheme will also lead to investments in innovation, research and development, and upgrade of technologies developed and deployed by the MSME sector.

**Entrepreneurship Skill Development Programme (ESDP)** launched by the Ministry of MSMEs is one of the key elements for promotion of MSEs (Micro and Small Enterprises), particularly for first generation entrepreneurs. The Entrepreneurship Development Programmes (EDPs) are conducted through MSME-DIs (Development Institutes), which focus on improving entrepreneurial skills and industry specific skills in areas such as electronics, electrical, and food processing, among others.

**MSE - Cluster Development Programme (CDP)** of the Ministry of MSMEs aims for the holistic development of selected MSME clusters through value chain and supply chain management. A cluster-based development approach has been identified as a key strategy for enhancing the productivity and competitiveness as well as capacity building of MSEs. Clustering of units also enables providers of various services, including banks and credit agencies to provide their services more economically, thus reducing costs and improving the availability of services for these clusters. Integrating resource efficiency and CE becomes feasible at the cluster level through economies of scale.

*Table 3: Various Schemes under National Manufacturing Competitiveness Program*

No.	Name of the Scheme	Brief Description
1	<b>Lean manufacturing competitiveness scheme for MSMEs</b>	Financial assistance is provided for the implementation of lean manufacturing techniques, primarily covering the cost of a lean manufacturing consultant (80% of Government of India and 20% by beneficiaries)
2	<b>Design Clinic for Design Expertise to MSMEs</b>	Funding support of (1) ₹60,000 per seminar and 75% subject to a maximum of ₹4.0 lakhs per workshop, (2) To facilitate MSMEs to develop new design strategies and or design related products and services through project interventions and consultancy. Government of India contribution at 75% for micro, 60% for SMEs for the project range ₹15 lakh to ₹40 lakh
3	<b>Technology &amp; Quality Up-gradation support for MSMEs (TEQUP)</b>	The scheme advocates the use of energy efficient technologies (EETs) in manufacturing units so as to reduce the cost of production and adopt clean development mechanisms.
4	<b>Marketing Support/Assistance to MSMEs (Bar Code)</b>	Adoption of international numbering standards used in Bar-Coding/E-commerce applications.
5	<b>Entrepreneurial and Managerial Development of MSMEs through incubators</b>	Provides early-stage funding to nurture innovative business ideas (new indigenous technology, processes, products, procedures) that could be commercialised in a year. The scheme provides financial assistance for setting up business incubators.
6	<b>Zero Defect Zero Effect Certification Scheme</b>	The scheme endeavours to sensitise and encourage MSMEs to understand and adopt the latest Quality Management Standards (QMS) and Quality Technology Tools (QTT) in their processes to achieve high productivity and high quality. Reimbursement of 80% for micro, 60% for small and 50% for medium for ZED Certification.
7	<b>Credit Linked Capital Subsidy for Technology Upgradation</b>	The scheme provides 15% subsidy for additional investment up to INR 10 million for technology upgradation by MSMEs.
8	<b>ISO 9000/ ISO 14001 Certification Reimbursement</b>	The scheme provides incentives to MSMEs/ancillary undertakings that have acquired ISO 9000 / ISO 140001/ HACCP Certification. The scheme is enlarged so as to include the reimbursement of expenses involved in the acquisition of ISO 140001 certification.
9	<b>Building Awareness on Intellectual Property Rights(IPR) for MSMEs</b>	The scheme assists MSMEs in technological upgradation and enhancing competitiveness and effective utilization of IPR tools. The scheme grants financial assistance on grant of patent/ registration under geographical indications of goods and trademarks, setting up IP facilitation centre.
10	<b>Promotion of Information and Communication Technology (ICT) in Indian MSMEs</b>	The scheme encourages and assists MSMEs to adopt ICT tools and applications in their production and business processes, thereby improving their productivity and competitiveness in the national and international market.

## 6. SUPPORTING MSMEs TO TAP CIRCULAR ECONOMY OPPORTUNITIES

To strengthen the MSME sector and make it resource efficient and move towards circular economy new opportunities need to be created for the MSMEs. These opportunities can build on the current policy landscape to achieve policy objectives, and ensure that circular economy considerations are made prominent. Specifically, there could be focus on the 5 key areas:

### Improving market access:

- Encouraging upstream and midstream processes to become more sustainable through green/sustainable procurement, with a focus on integrating MSMEs as green suppliers in the supply chain
- Access to international trade facilitation to allow MSMEs to enter global markets and enhance their global competitiveness
- Setting standards and creating environmental criteria for measurement and benchmarking related to circular economy and helping MSMEs differentiate their products and accessing green niche markets

### Capacity building and skill development

- Human capital and skills development, entrepreneurship skill facilitation, awareness generation, and knowledge dissemination for MSMEs
- Technical institutions for skill development and training
- Drawing and disseminating learnings from innovative and successful business models
- Special support to women's entrepreneurship. A customer-centred approach should be adopted by financial institutions based on the value proposition that combines access to financial services with information, education and networking opportunities to develop a bundle of products and services for women.<sup>24</sup>
- Measuring, monitoring, and evaluation to determine current practices (baseline surveys and situation analysis), gaps, and potential uptake of sustainable practices within and between sectors

### Technology access and digitalization of processes

- Provide access to technology and digitalisation for ease of business and resource efficient production. The offerings of the technology suppliers may also have to be customised for MSMEs to make it more accessible
- Innovation diffusion literature suggests that MSMEs particularly benefit from the technological learning that takes place from co-location of large and small industries within innovation clusters.<sup>25</sup>
- Technology demonstration and proof of concept/ laboratory testing for diffusing technology should be enabled. For this, industry associations can be approached to make MSMEs aware of emerging resource efficient clean technologies and their potential and arranging demonstrations for this purpose.
- Technology centres run by public and/or private organizations can conduct applied research and facilitate lab-to-market innovation
- A cluster service approach—with a local service provider/manufacturer in place to offer fuel and technology supply, maintenance, awareness of new skills required to use the technology—could spur MSME uptake of new technologies.<sup>26</sup>

### New avenues for accessing finance and infrastructure

- Access to financing and insurance mechanisms, including microcredit and microfinance
- Common and shared facility infrastructure through MSME clusters and sustainable industrial parks identification and development
- Targeted financial support for MSMEs in export markets
- Effective ICT infrastructure to connect MSMEs to global markets, information markets, and e-commerce platforms.<sup>27</sup>

<sup>24</sup> IFC. (2019). *Financial inclusion for woman-owned micro, small & medium enterprises (MSMEs) in India*. International Finance Corporation.

<sup>25</sup> Zanello, G., Fu, X., Mohnen, P., & Ventresca, M. (2016). *the Creation and Diffusion of Innovation in Developing Countries: a Systematic Literature Review*. *Journal of Economic Surveys*, 30(5), 884–912. <https://doi.org/10.1111/joes.12126>

<sup>26</sup> Dhingra, S. (2018). *Thermal gasifiers to the rescue of MSME energy needs*.

<sup>27</sup> OECD. (2017). *Enhancing the Contributions of SMEs in a Global and Digitalised Economy*. Meeting of the OECD Council at Ministerial Level, 1, 7–8.

## Stakeholder Collaboration

- Developing networks among businesses, governments, and education could foster collaboration on key issues and support systemic change. For example, R&D collaboration between industry and academia can overcome barriers to the viability of circular economy opportunities created by the lack of cost-effective technology.
- Government and research institutions must work together with the industry for converting innovations into viable business models. Support organisations for MSMEs can play a key role in the transition by guiding and facilitating the transition through collaboration between academia, policymakers and potential funders/investors.
- Develop both cross-sectoral partnerships and partnerships across different players (for example, MSMEs, government, urban local bodies, NGOs and consumers)
- Integration of the informal sector throughout the supply chain, including collaboration and integration of unauthorized manufacturing units and informal waste pickers, traders, and processors.



RecycleX



## CONCLUSION

A circular economy is a model for economic growth that aims at environmental protection, pollution prevention and sustainable development. While MSMEs have the potential to be the core engines of transition to circular economy through innovation and economic growth, they often face significant constraints to build and scale their businesses. The main challenges are financial support and resources, in terms of skills and knowledge, they may also lack awareness of technological innovation and may have insufficient understanding of circular economy and its practices. So addressing the multiple challenges would require well designed comprehensive solutions. Government needs to understand the needs and demands of the market and the more specifically of private sector. Enhancing the inclusive and sustainable business models that exists in the MSMEs to drive and scale up the business' impact and make meaningful contributions to the Sustainable Development Goals (SDGs) will need to focus not just on managing waste, but also on material sustainability aspects to maximize impact and transition to business models that generate value for the society.

Developing policy prototype ideas can help us set on the path to integrating the needs of MSMEs into policy making, and ensuring that policies towards a green, circular, and inclusive economy translate into impact at a local level. These can complement the circular economy efforts at a national and international level, where India is considered a key partner. There is also need to identify and develop key performance indicators and frameworks, to enable MSME's or the sector's transition to circular practices.

The SEED Practitioner Labs for Policy Prototyping are designed to discuss these various issues and challenges, bringing together a wide range of stakeholders to co-create solutions. In 2021, the SEED Practitioner Labs for Policy Prototyping will be held in India and in Indonesia. In India, the lab is being organized in partnership with The Energy and Resources Institute (TERI).



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